

depositing a second compound onto the substrate surface and onto the upper surface of the first compound by chemical vapor deposition.

13. *The method of claim 12 further comprising planarizing the isolation structure such that the surface of the substrate and an upper surface of the second compound are substantially coplanar.*
14. *The method of claim 12 wherein the substrate surface and the trench further comprise a thermal oxide coat.*
15. *The method of claim 13 wherein the trench has an aspect ratio (depth/width) of no less than 5.*
16. *The method of claim 12 further comprising curing the first compound to form an oxide.*
17. *The method of claim 12 wherein the step of partially removing comprises a process selected from the group consisting of a spin-rinse process, a wet etch process, and a dry etch process.*
18. *The method of claim 12 wherein the first compound is formed from at least one compound selected from the group consisting of methylsilsesquioxane, hydrogensilsesquioxane, methylhydridosilsesquioxane, silicate, and perhydrosilazane.*
19. *The method of claim 12 wherein the second compound is formed from tetraethylorthosilicate or silane.*
20. (Amended) A method of removing a spin-on compound, comprising:
spin-depositing a spin-on compound on a surface of a substrate, wherein the spin-on compound comprises silicon, wherein the first solvent comprises propyl acetate, and wherein the second solvent comprises ethyl lactate; and
spin-rinsing the spin-on compound with a solvent mixture, wherein the solvent mixture comprises a first solvent that dissolves the spin-on compound, and a second solvent that is inert to the spin-on compound.

21. Cancel.

22. Cancel.

23. Cancel.

1.130 DECLARATION OF SANDRA THOMPSON

Please find attached a 1.130 Declaration by Sandra Thompson, PhD, the undersigned Attorney of Record. This Declaration directly addresses the Endisch reference cited in Paper Nos. 5 and 9. A terminal disclaimer is also attached in order to expedite the matter.

REMARKS

35 USC §102

Claims 12, 14 and 17-19 are herein rejected under 35 USC §102(b) as being anticipated by Fulford, Jr. et al. (US 6,008,109). The Applicant respectfully disagrees.

Claim 12 recites “A method of forming a shallow trench isolation structure, comprising: forming a trench in a substrate having a surface, and depositing a first compound into the trench using spin-on deposition; **partially removing the first compound from the trench such that an upper surface of the compound is below the surface of the substrate**; and depositing a second compound onto the substrate surface and onto the upper surface of the first compound by chemical vapor deposition.” (emphasis added)

Fulford, Jr et al. (Fulford) teaches a process for forming a trench isolation structure which includes forming a low K dielectric material within the trench such that its upper surface is level with the upper surface of the substrate or forming a low K dielectric material within the trench such that